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**Lessons Learned from
Environmental Accounting
(Preliminary Findings)**

Prepared for the Conference on

RESOURCE ACCOUNTING AND POLICY

February 3 and 4, 2000
Centennial Hall, The Manila Hotel
PHILIPPINES



**Department of Environment
and Natural Resources**

*Philippine Economic – Environmental
and Natural Resources Accounting System*



***Environmental and Natural Resources
Accounting Project***

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Lessons learned from environmental accounting

Preliminary findings

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**Presentation to the Conference on
Resource Accounting and Policy
February 3 and 4, 2000
Manila, Philippines**

**Organized by the
Environmental and Natural Resources
Accounting Project (ENRAP)
Department of Environment and
Natural Resources (DENR)**

Questions to answer

- Are environmental accounting data used, and if so, how?
- Does the choice of focus or methodology affect the use of the data?

Project approach

Case studies in key countries, to gather data on:

- what accounting work has been done
- why those activities?
- how have the data been used?

Country choice based on

- how long accounting work has been in process
- breadth of environmental concerns among countries chosen
- breadth of subjects covered and approaches used among countries chosen
- range of funding sources
- developed and developing countries

Countries chosen

- ✓ Norway
- ✓ Sweden
- ✓ Netherlands
- ✓ France
- ✓ Canada
- Philippines
- Namibia
- United Kingdom
- Germany

Possible account topics

- physical emissions
- environmental protection expenditures
 - real pollution control expenditures
 - hypothetical expenditures for further pollution control
- environmental protection industry
- taxes, fees, and subsidies

Account topics, cont'd

- resource accounts - forests, minerals, energy sources, fish, land, etc.
- materials flow accounts (links to physical emissions or resource accounts)
- monetary value of non-marketed goods and services
- adjusted macroeconomic indicators - green GDP, sustainable national income

What defines "accounting?"

- Ability to link economic and environmental data so as to analyze them jointly
- Comprehensive coverage within the framework of the issue of interest

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Norway

- early work begun in 1970s in response to Limits to Growth
- focus on environmental implications of resource development - land, forests, fish, energy
- didn't use most of those data because resource scarcity did not turn out to be a real problem

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Norway, cont'd

- Physical energy accounts used in
 - macroeconomic models - role of energy sector in the economy, *impact of changes in energy prices on other sectors*
 - analysis of environmental implications of hydropower development
 - projecting energy demand
 - modeling air emissions
 - modeling costs of Kyoto Protocol

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Norway, cont'd

- air emissions accounts built on basis of energy accounts
- used to develop sulfur protocol agreements
- transport and energy emissions models connected to macroeconomic models

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The Netherlands

- Originator of the NAMEA approach
- Uses I/O framework with columns for pollution data and composite environmental theme indicators
- Indicators used to set environmental targets
- Focus on air pollution and climate change
- NAMEA adopted and funded by EU

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The Netherlands, cont'd

- NAMEA system used in analysis of structural implications of achieving strict environmental targets
- Found radical restructuring would have been required, including elimination of most agriculture
- Study was shelved.

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Netherlands, cont'd

- Calculation of "sustainable national income according to Huetting" now underway
- Method involves assumptions about environmental goals and technological options, then estimation of costs by sector
- Results not considered credible, for the most part

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Sweden

- NAMEA and environmental protection accounts with EU support
- Core work - energy accounts, air pollutant emissions, climate change models
- Modeling work on climate change, fiscal policies, etc. called for by series of national commissions. Ministry of Finance including this in mid-term models.

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Sweden, cont'd

- Analytical work and valuation done by National Institute for Economic Research
- Estimates of green GDP requested by politicians, NIER reluctant
- Valuation of costs imposed by acid rain - forest loss, crop loss, health care, real estate impacts - of interest because acid rain is imported.

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Sweden, cont'd

- Concern about how to integrate disparate components of their accounts - e.g. materials flow, forests, energy, pollution.
- Concern about reliability of public use of data, e.g. environmental performance by industry
- Concern about whether composite themes are transferable across countries

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Canada

- "Econnections" integrated environmental accounting program
- Energy data linked to climate change modeling, used by government and consulting firms
- Strong focus on environmental protection accounts and environment industry driven by Industry Canada

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Canada, cont'd

- Material and energy flow accounts (MEFA) linked to emissions accounts, energy accounts and resource accounts - this view incorporates NAMEA within MEFA
- Accounts data published in format designed for widespread use in schools and by journalists - very popular
- NGOs calculating ISEW and GPI

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Conclusions

- Most data used by government analysts or by consultants working for government
- Some use is in response to directives from elected officials, calling for simplified answers to specific questions
- Some use by academic researchers and think tanks
- No identified use by advocacy groups

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Conclusions, cont'd

- Data often produced into response to perceived crises
- Demand for data strongest when driven by immediate policy decisions
- Example: of energy data and climate change
- Problem: time series data vs. being driven by crises

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Conclusions, cont'd

- No countries studied (so far) have included environmentally-adjusted macroeconomic indicators in the accounts
- Research-based attempts to do so in several countries - Netherlands, Sweden.
- Non-marketed environmental values have more credibility, though they are not included within the accounts.

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Conclusions, cont'd

"Real world" reasons why approaches are adopted:

- Influence and funding of international institutions - EUROSTAT, UNSD, bilateral donors
- Driving personalities (pro or con)
- Data availability

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Conclusions, cont'd

Conflict between accounting and modeling:

- Accountants focus on historical data.
- Analysts focus on broader issues.
- Analysts need accountants to produce routine data. Accountants need analysts to create demand for the data.
- Cooperation and division of labor should be possible.

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